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UNITED STATES DEPARTMENT OF AGRICULTURE
Bureau of Agricultural Engineering

MONTHLY NEWS LETTER

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On April 1 Chas. A. Bennett presented a paper entitled "Progress in Ginning Tests and Instruments" before the Texas Cotton Ginner's Association, Fort Worth, Texas, at the annual convention of that organization. About 1,000 ginner's were in the audience.

A demonstration section through a cotton gin, showing the saws, ribs and brush, has been made up for use with the cotton ginning stroboscope. This exhibits the action of the gin brush in a striking manner and will be used for Bureau photographic illustrations as well as to show to visitors.

J. G. Sutton, in charge of the thirty-six CCC Drainage Camps in the Central District, reports a considerable increase in the monthly production of the camps during March.

Numerous dragline excavation projects were begun the latter part of the month as better weather improved working conditions. Total channel excavation and embankment work performed by enrollee hand labor, government-owned draglines and tractors, and similar equipment loaned to the camps by the drainage districts through cooperative agreements, amounted to 948,997 cubic yards during March as compared to 202,583 cubic yards in February. Clearing work amounted to 9,218,991 square yards, an increase of 1-1/2 million yards over February; 30,726 linear feet of tile lines were reconditioned, as compared to 2,088 feet during February. The cash value of cooperation furnished during the month amounted to \$66,000. W. P. Ireland, superintendent of CCC Drainage Camp D-6, Annawan, Ill., has been transferred to the Eastern Shore camps with headquarters at Georgetown, Delaware, as supervisor of the camps in Maryland and Delaware. Geo. Burnet, inspector of CCC camps gave a talk over the radio from Station WOI, Iowa State College, on April 3, entitled "Objectives of CCC Drainage Camps". In this he gave a description of the kinds of work accomplished by the camps, such as clearing and cleaning out drainage channels, repairing flood control works, pumping plants, or district-owned bridges, relaying tile drains or replacing broken pipe.

In addition to studies carried on at Willard, N.C. and Beltsville, Md., F. E. Staebner has taken charge of the irrigation of a strawberry field at Salisbury, Md.

W. W. McLaughlin attended the Fifth Annual Conference of the Institute of Irrigation Agriculture, at Salt Lake City, Utah, March 11 to 13, inclusive. He was reelected a member of the Executive Council and appointed chairman of a special committee consisting of a representative from each of 14 Western States to prepare a proposed plan for repayment of construction charges on Federal reclamation projects.

The Bureau of Agricultural Engineering recently entered into an agreement with the National Resources Committee by the terms of which it becomes associated with the Geological Survey, Bureau of Reclamation, Resettlement Administration, Soil Conservation Service, and the States of Colorado, New Mexico, and Texas, in extensive studies of water supply, needs, and uses in the basin of Rio Grande above Fort Quitman, Texas. The Bureau's activities will center around the mapping of the irrigated and irrigable areas and ascertainment of consumptive use of water in irrigation. A financial contribution will be made by the Bureau but the greater part of the expense is to be carried by the Public Works Administration. The following members of the Division of Irrigation will probably be assigned to the work, which is to be finished by January 1, 1937; Fred C. Scobey, Paul A. Ewing, Harry F. Blaney, Carl Rohwer, and D. W. Bloodgood. Field assistants will be employed locally. In addition to representing the Bureau, Mr. Scobey will serve as Associate to the Engineer in charge of the joint investigation.

A vortex-tube sand trap was designed by R. L. Parshall for installation in the West Side Main Canal of the Imperial Irrigation District at Imperial, Calif. This sand trap, consisting of a battery of 12 tubes, is to be built in the large wooden flume over New River in Mexico. Mr. Parshall also prepared a design for a 20-foot reinforced concrete Parshall measuring flume for installation in the Florence Casa Grande Canal near Coolidge, Arizona. This large canal, having a maximum flow of 1,100 second-feet, diverts water from the Gila River for the San Carlos Irrigation District and serves lands under the management of the U. S. Indian Service.

In connection with the water-spreading, or underground storage of water project, Dean C. Muckel reports that percolation tests were made on several ditches on Lytle Creek in southern California. It was found that many of the ditches which were originally flat-bottomed and shallow have started to erode into narrower channels decreasing the wetted area per ditch. Junior and senior students in agriculture at the University of California at Los Angeles, with their instructor, visited the Azusa spreading plots, operated by the Division of Irrigation.

M. R. Lewis attended a meeting of the Agricultural Council of the Pacific Northwest Advisory Board, at Portland, on March 26. He also attended the County Agricultural Outlook conferences in Baker and Wallowa counties, Oregon, serving as secretary of the irrigation and drainage committees.

A paper on "Crop Production and Seasonal Uses of Water by Some Farm Crops under Irrigation" was delivered by Leslie Bowen at the annual meeting of the Nebraska Potato Association held at Scottsbluff, Nebraska, March 20.

The WPA water table survey in the Lower Rio Grande Valley of Texas, sponsored by the State Board of Water Engineers, is progressing rapidly, according to Harry G. Nickle. Over 2,000 test wells have been put down in Willacy, Hidalgo, and Cameron counties. Levels have been carried to about 1,200 of these, water samples for chemical analysis have been taken from about 150 holes, notes on the soil encountered have been taken on each of the test wells dug, and periodic measurements of wells in each of the areas covered are being taken each month.

R. B. Gray returned to Washington April 18 from Auburn, Ala. and Albany, Ga. While in Alabama he visited the Prattville field where John W. Randolph was planting cotton in his plots having various methods of

seed-bed preparation. E. D. Gordon was assisting in the work by taking soil samples for apparent specific gravity determinations.

On a large nearby plantation I. F. Reed was making observations on the use of various tillage tools as to their performance in covering vetch -- a winter legume.

While at Albany Mr. Gray discussed features of the spraying and dusting project with E. M. Dieffenbach.

Considerable interest in the trash covering attachment, the disk jointer and trash guide has been shown this spring by Illinois farmers according to Thayer Cleaver. Several sets of both devices are being used by cooperating farmers for their spring plowing.

A ridge former has been constructed by E. M. Mervine for preparing sugar beet fields for planting. This implement comprises not only plows which move sufficient soil to form the ridges, but sections of a land roller for firming the ridge. This firming is necessary in some areas because of the lack of winter rains. The ridge former has met with unusual success and may be a feature in the establishing of a different method of planting in the flat fields where irrigation is difficult.

R. M. Merrill reports that in an attempt to reduce the construction costs of the self-aligning disk jointer developed as a plow attachment at the Toledo office, a plain tapered bearing has been designed to replace the roller bearings now being used. This plain bearing will be given extensive tests during the coming season.

The vapor generator which is to be used for spraying tests in Ohio is being fitted with equipment for handling all types of spray materials, soluble and insoluble.

On the pink bollworm control project D. A. Isler states that the laying of the screen wire on the cage top has been completed and cotton was planted under half the cage on April 1. Variety and date-of-planting tests will be conducted under the cage during the present season.

G. A. Cumings has been in the field most of the month in connection with fertilizer placement studies. W. R. Humphries accompanied him April 15 to Cranbury, N.J., and Long Island, N.Y. in connection with the planting of fertilizer placement experiments with potatoes. Messrs. Humphries and Schoenleber also made a previous trip to Long Island, N.Y. and Cranbury, N.J. in connection with the study on potatoes. W. H. Redit left April 1 in connection with the spring work of placement studies in the Southern States. C. W. Brockseker made two trips to the Southern States in connection with preplanting fertilization for cotton.

According to L. G. Schoenleber the construction of the two-row beet and bean fertilizer hill-drop machine is practically completed. This machine will be used in connection with fertilizer placement studies this spring.

Representatives from the Divisions of Agricultural Engineering and a number of representatives from the Departments of Home Economics of the State agricultural colleges of the Northeastern States met in conference March 25 and 26 at the Victoria Hotel, New York City, for the purpose of selecting plans for use as regional exchange plans. Representatives of the Bureau of Agricultural Engineering assisted in making the selection. Messrs McCrory, Ashby, Lyle, and Miller, of this Bureau, attended.

The Bureau operates a plan exchange and circulates negatives among the cooperating States from which they make blueprints for distribution to farmers in their own States. A feature of this service is that the title block of the plans for each State bears the name of that State which is an attractive feature on account of the individuality implied.

C. F. Kelley left Washington April 15 for Urbana, Ill., to assist in getting the wheat storage project started there. This project will be carried on in cooperation with the Experiment Station of the University of Illinois.

A. H. Senner visited Madison, Wisc., to study the farm housing project under Max J. La Rock. On his return he attended the American Oil Burner Institute convention at Detroit, April 16 to 19.

Two weeks were spent in Florida by W. V. Hukill and Messrs. Wright and Gorman of the Bureau of Plant Industry studying the control of late blight rot of potatoes. The potato shipping season was wet and late blight was responsible for losses in the crop in transit. Growers were experimenting with precooling by means of refrigerator trucks and also by use of bunker blowers or fans in iced refrigerator cars. Since late blight is most injurious when the surface of the potatoes is wet it was suggested that the potatoes be given a final washing in warm water so the surface would dry rapidly. Change in the weather at about the time this experiment was begun prevented obtaining conclusive results on this method. In addition to the study of potato shipping conditions Messrs. Hukill, Wright and Gorman made a brief survey of methods of shipping strawberries, celery and citrus products in the Florida territory. On his return from Florida, Mr. Hukill spent several days with J. W. Simons, who has been transferred to Athens, Georgia, as the Bureau representative to determine the requirements of farmhouses in the South, which is being carried on in cooperation with the University of Georgia. Messrs. Hukill and Simons visited Gainesville, Ga. to note the type and extent of damage done by a recent tornado.

Bulletins issued:

Better Plowing, by Thayer Cleaver and R. I. Shawl,
Illinois Experiment Station Circular 350.